REMARKS

Applicant respectfully requests consideration of the subject application. This Response is submitted in response to the Office Action mailed December 26, 2006. Claims 4-8 and 21-25 are pending. Claims 4-8 and 21-25 are rejected. In this Amendment, claims 24 and 25 have been canceled without prejudice. No new matter has been added.

35 U.S.C. § 102 Rejections

The Examiner has rejected claims 21 and 8 under 35 U.S.C. § 102(e) as being anticipated by Meir (U.S. Patent Application Publication 2005/0174737 A1, hereinafter "Meir"). This includes independent claim 21.

The Examiner previously rejected claim 21 on the following grounds:

"Meir teaches furthermore the computer system of claim 1, further comprising: a fan 314 inherently provided with a motor coupled to the fan to rotate the fan so that the fan cools the microelectronic die 319 when power is provided to the motor, the controller controlling the power provided to the motor such that power to the thermoelectric module is limited and fan speed is accelerated when power to the thermoelectric module reaches a predetermined maximum value (col. 9, paragraphs [0101]; [0102] and [0103]."

Meir in column 9, paragraphs [0101], [0102] and [0103] states as follows:

"[0101] Referring to FIG. 5, there is shown a cooling unit 300 consisting of a cold plate 317 coupled to a TEC 218, to which is connected a hot side cooling plate 315, convection cooled by a cooling fan 314. The cooling unit 300 is coupled to a computer

processor, shown herein as a being a CPU 319. The cold plate 317 is grounded by a grounding lead 321 which may be connected to the motherboard or to the casing of the computer, for example.

[0102] A CPU temperature sensor 320 is mounted on the cold plate (cold side heat sink) 317 and coupled to the cooling system's electronic controller 322. An ambient temperature sensor 324, also coupled to microprocessor 322, may also be provided within the computer case. In this way, microprocessor 322 can control both TEC 318 operation and fan 314 operation in accordance with the temperatures of the CPU 309 and the ambient temperature within the case, as sampled by the sensors 320, 324.

[0103] Referring back to FIG. 4 there is shown a side view of a PCI card 218 of an active cooling system according to another embodiment of the invention. The PCI card 218 contains control circuits, an example of which is shown schematically in FIG. 6, and a power inverter, an example of which is shown schematically in FIG. 7. As can be seen in FIG. 4, PCI card 218 mounted in a PCI slot 327 of the computer case. According to a preferred embodiment, the power inverter includes a planar transformer of relatively low thickness, thereby permitting the entire cooling system to fit into a single, conventional PCI slot. The PCI card 218 receives mains power from a power cord 220, fed via a bracket 206 to the PCI card power connector 328. In this way, the PCI card 218 receives power independently of the PC power supply, which is a particular feature of all preferred embodiments of the present invention. This serves as an added safety feature, in that the computer cannot be turned on unless the cooling system has been activated previously. This is explained in greater detail hereinbelow."

Meir in the quoted section states that the PCI card 218 receives power independently from the PC power supply. Meir also states that a fan take-over signal is provided to the motherboard 210 and that controlled voltage is provided to the front 212 and rear 222 case fans. Meir does not state that that power to the TEC 228 is limited and that the fan speed is accelerated. Claim 21 thus includes at least one limitation that is not suggested by Meir.

The Examiner has now rejected claim 21 under 35 U.S.C. § 102(e) on the following grounds:

"Examiner strongly disagrees with the applicant's statement that: "Meir does not state that the power to the TEC 228 is limited and that the fan speed is accelerated. Claim 21 thus includes at least one limitation that is not suggested by Meir". On the contrary: Meir in paragraphs [0052] and [0056] discloses: "Optionally, the method further comprises the steps of sampling data from the processor temperature sensor; determining whether the sampled data is within a preselected acceptable range, and if said data is higher than the preselected range, setting PWM signal output from the microprocessor to maximum (about 100% PWM) to operate the thermoelectric element(s) at maximum power; and operating the processor cooling fan at maximum speed for maximum cooling of the processor".

As specifically stated in the section quoted by the Examiner, the cooling fan and the thermoelectric elements are both at maximum power. The cooling fan thus runs at 100% speed and the thermoelectric elements are at 100% power at the same time. More specifically, there is no suggestion that power to the thermoelectric module is limited and fan speed is accelerated when power to the thermoelectric module reaches a predetermined maximum value.

The feature of limiting thermoelectric module power while accelerating fan speed is shown in Figure 2. Figure 2 specifically shows that there is initially a direct relationship between motor voltage and thermoelectric voltage. Thermoelectric voltage is, however, limited and motor voltage increases after that. Meir does not disclose the feature as illustrated in Figure 2. Claim 21 specifically includes the limitation that "power to the thermoelectric module is limited and fan speed is accelerated when power to the thermoelectric module reaches a predetermined maximum value." Claim 21 thus includes at least one limitation that is not suggested by Meir.

Claim 8 depends from claim 21 and should be allowable for at least the same reasons as claim 21. Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 21 and 8 under 35 U.S.C. § 102(e) as being anticipated by Meir.

35 U.S.C. § 112 Rejections

The Examiner has rejected claims 24 and 25 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. These claims have been deleted without prejudice.

35 U.S.C. § 103 Rejections

The Examiner has rejected various claims under 35 U.S.C. § 103(a) as being unpatentable over various references. These claims either depend from claim 21 and should thus be allowable for at least the same reasons as claim 21 or have been deleted.

Applicant, accordingly, respectfully requests withdrawal of these rejections under 35 U.S.C. § 103(a).

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen M. De Klerk at (408) 720-8300.

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,
Blakely, Sokoloff, Taylor & Zafman LLP

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/ Stephen M. De Klerk /
Stephen M. De Klerk
Reg. No. 46,503

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8300